

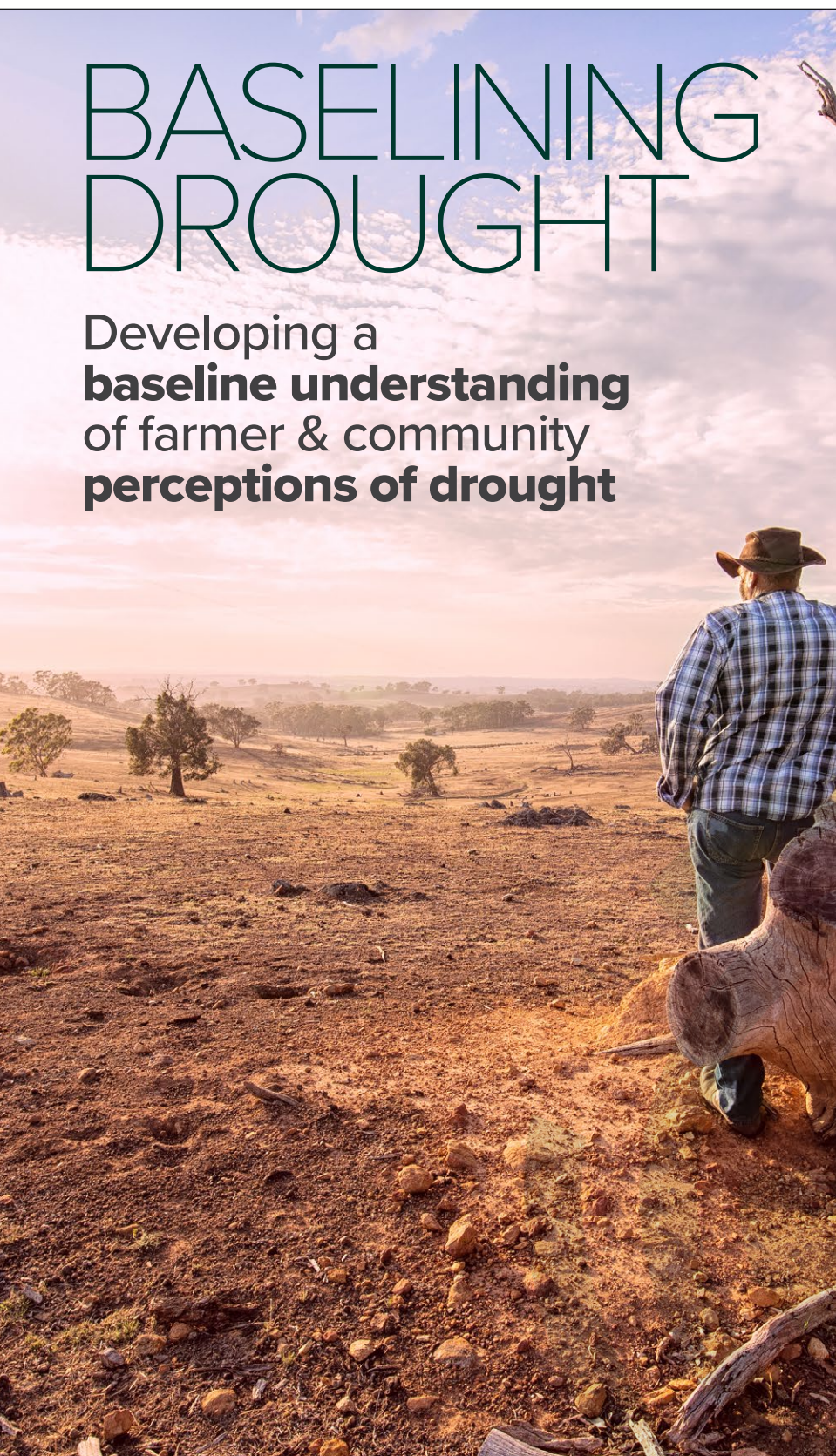


SOUTHERN NSW
Innovation Hub

SUSTAINABLE AGRICULTURE,
LANDSCAPES AND COMMUNITIES

BASELINING DROUGHT

Developing a
baseline understanding
of farmer & community
perceptions of drought



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*Engaged by Southern NSW Drought Resilience Adoption
and Innovation Hub*

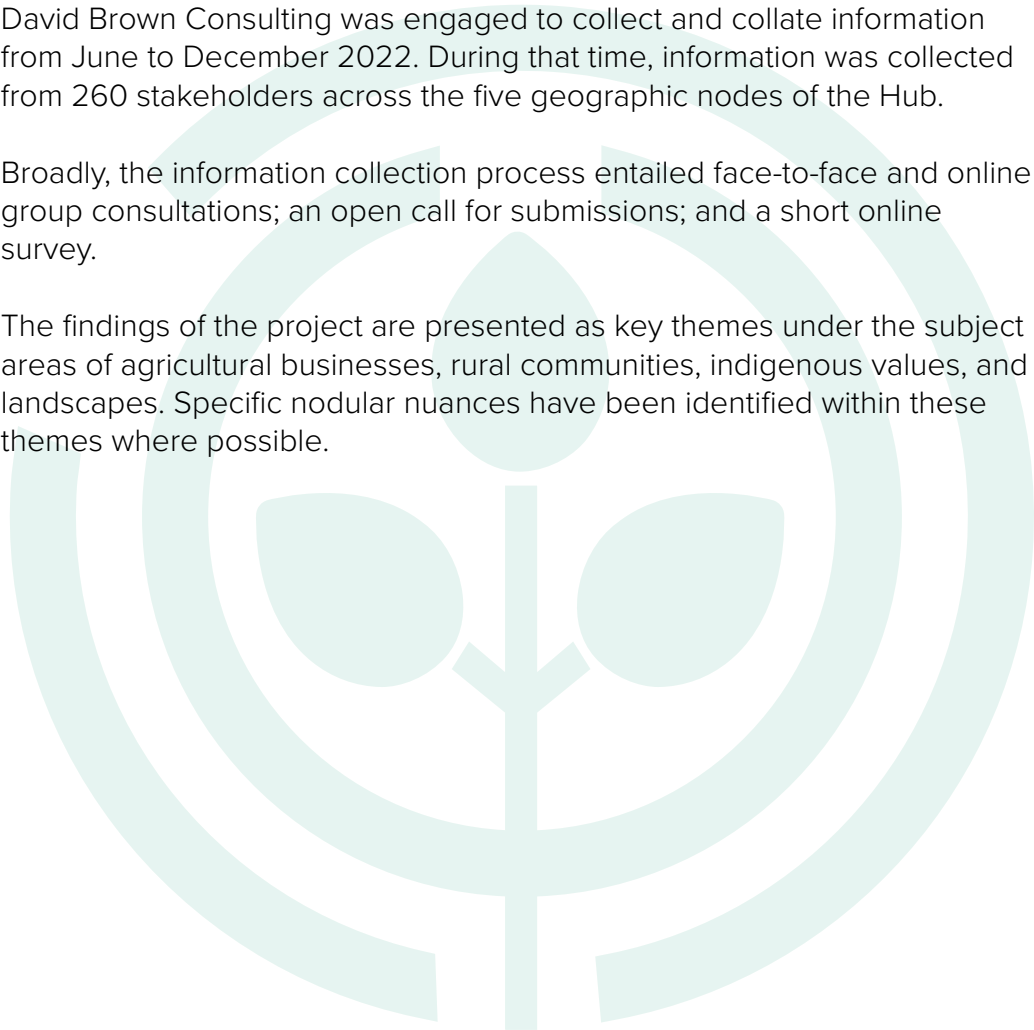
December 2022

This report stems from a key activity in the Southern New South Wales Drought Resilience Adoption and Innovation Hub's Operational Plan to develop a baseline understanding of farmer and community perceptions of drought.

David Brown Consulting was engaged to collect and collate information from June to December 2022. During that time, information was collected from 260 stakeholders across the five geographic nodes of the Hub.

Broadly, the information collection process entailed face-to-face and online group consultations; an open call for submissions; and a short online survey.

The findings of the project are presented as key themes under the subject areas of agricultural businesses, rural communities, indigenous values, and landscapes. Specific nodular nuances have been identified within these themes where possible.



Project purpose

The purpose of this Southern NSW Drought Resilience Adoption and Innovation Hub ('the Hub') project is to establish a shared understanding of what constitutes drought in the current context across southern and central New South Wales, and what that means for the communities and producers of the region as a basis for assessing the changes required, barriers to overcome, and potential opportunities to improve drought resilience.

Approach

The project ran between June & December 2022. Information was collected from 260 stakeholders across the five distinct geographic nodes of the Hub.

Broadly, the information collection process entailed: face-to-face and online group consultations; an open call for submissions; and a short online survey

The findings of the project were presented as key themes under the subject areas of agricultural businesses, rural communities, indigenous values, and landscapes. Specific nodular nuances have been identified within these themes where possible.

Synopsis of findings

The following synopsis provides a high-level interpretation of the information garnered during the project.

INDICATORS OF DROUGHT

Stakeholders had difficulty in identifying the key indicators of drought. Responses varied from glib – “the weatherman” – to the more tangible – livestock pressuring fence lines - to the more scientific - antecedent rainfall as a predictor of groundcover. From a community perspective, the reduction in discretionary spending was often cited as an indication of drought. The most promising early warning sign of drought was antecedent rainfall and its ability to predict current and future groundcover.

IMPACTS ON FARM BUSINESSES

Previously documented impacts of drought on farm businesses, such as decreased income and production, and increased expenditure, were reiterated in the current project. The drought caused farm debt to increase, and the timing of this increase varied depending on, among other things, when a farm went into drought and what drought strategy the farmer adopted. Financial recovery after the drought was identified as slow, with evidence of restricted access to working capital exacerbating the issue.

However, in contrast to previous droughts, in the 2017-2019 drought commodity prices remained strong. Farmers were forced to consider the relative merits of attempting to maintain production or shutting down operations. Land value also remained strong.

The topic of drought preparation was revealing. Farmers who had the benefit (or otherwise) of experiencing previous droughts, were better prepared for the more recent 2017-19 drought.

Further, farmers felt that their skills and knowledge, and innovation, had improved again in the wake of the 2017-19 drought. However, after three years of drought even the best plans failed, options dried up, and farmers were forced to resort to responding to an evolving situation as best as they could.

Briefly, other themes included: critical agricultural (and indeed, broader) labour shortages post-drought; considerable angst and condemnation of the handling of water resources among the irrigation areas; mixed responses to government support due to eligibility loopholes, arduous application processes, and perverse impacts; farmers suggested that the emphasis is taken off 'drought' and re-focused on 'climate extremes' that affect farm businesses.

IMPACTS ON RURAL COMMUNITIES

Rural communities suffered dearly during the 2017-19 drought. Alarming, some experiences suggested that drought frayed the social fabric of rural communities: increases in domestic violence and alcohol consumption; downturns in community activity; reduced sporting and educational opportunities for children; reduced social engagement; reduced community resilience; and increases in the incidence of mental health issues and suicide were all identified.

However, these negatives are tempered by evidence of some communities rallying in the face of drought. The positive impacts of locally organised, government funded community activities were identified as providing a welcomed opportunity for locals to escape the isolating, depressing context of drought.

Local economic slowdown was a general observation of rural communities, with a general decrease in discretionary spending impacting local businesses. Closure of some terminally impacted local businesses had knock-on implications for the local community, namely the reduction in employment opportunities and support services for locals who are then forced to leave town in pursuit of work or services.

The nature and the extent of impact on local business varied depending on the business. For instance, some rural contractors were adversely affected, but some tourism businesses were beneficially affected. This suggests that more nuanced approach is required to fully understand the economic impacts of drought off-farm.

A notable observation was the erosive impact of the drought on rural community resilience, leaving them vulnerable and unprepared for the successive effects of the bushfires, pandemic, and floods.

IMPACTS ON THE INDIGENOUS COMMUNITY

The impacts and experiences of the drought were keenly felt by the indigenous community. Among other things, the amount of bush tucker and medicine was reduced, access to traditional meeting places was restricted, and sacred sites were exposed and damaged.

Indigenous stakeholders expressed a strong connection with the land and represented that the impacts of the drought made it difficult to continue participating in the cultural practises that underpin their connection to land, and to nurture their cultural identity. Indigenous stakeholders also expressed a strong empathy with the land. The visceral impacts of denuded landscapes, perishing animals, and drying rivers caused much anxiety and distress among indigenous communities.

Indigenous stakeholders suggested that although the indigenous culture evolved in the drought-prone Australian environment, the context in which it finds itself today is vastly different to pre-colonisation. Suggestion that indigenous people are peculiarly adapted and resilient to drought is erroneous and potentially hurtful.

The cumulative impacts of the drought on the indigenous community were emotionally draining and, it was suggested, it caused some parts of the community to 'act out' in frustration. Increased violence and unrest among the communities, especially in the younger generation, was observed during the 2017-19 drought period.

IMPACTS ON THE ENVIRONMENT

Of the subject matters explored in consultations, the environment was identified by participants as the most impacted by the drought, but also the area experiencing the most recovery post drought.

There were observations of die-back of trees and deterioration of native and improved pastures. Ground cover, a key indicator of environmental resilience, was observed to be low across a broad area, resulting in wind and rain related erosion events. Native fauna, especially the kangaroo, was heavily impacted by the drought.

There was frustration in environmental policy concerning water and kangaroo management. 'Environmental flows' through irrigation areas were observed to not produce the positive environmental impacts intended and were considered a waste of valuable water. Regarding kangaroos, large populations were said to decimate native and agricultural pasture assets across the entirety of southern and central NSW before perishing in large numbers and farmers had few management alternatives available to them.

CONCLUSION

The significant range in geography, industry, and stakeholder provided more investigative pathways than achievable within the constraints of this project. Consequently, the findings are not, and were never intended to be, comprehensive evidence of the experiences and impacts of droughts from every plausible perspective within the remit of the project.

However, the findings do provide an independent window into which industry, government, business, education, and interested individuals may peer to begin to gain a true understanding of the impacts and experiences of drought, and what drought means for rural communities and farmers as a basis for assessing the changes required, barriers to overcome, and potential opportunities to improve drought resilience.

The following report provides more detailed findings and will be informative to those working to define the future of Australia's agricultural industry and rural communities in the face of drought.

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INTRODUCTION AND PURPOSE OF THIS PROJECT

This project is concerned with an analysis of drought experience across the Southern NSW Drought Resilience Adoption and Innovation Hub region (Figure 1).

The purpose of this project is to establish a shared understanding of what constitutes drought in the current context and what that means for the communities and producers of southern and central NSW as a basis for assessing the changes required, barriers to overcome and potential opportunities to improve to improve drought resilience.



Figure 1: A map illustrating the geographic remit of the Southern NSW Drought Resilience Adoption and Innovation Hub

EVIDENCE BASE FOR THIS REPORT

This report draws on a broad evidence base, including information from:

- Group consultations, using either face-to-face meetings, remote conferencing or a combination of the two;
- Written submissions, guided by a broad terms of reference; and a
- Short on-line survey.

WHERE IS THE SOURCE OF INFORMATION FOR THIS REPORT?

This document has a companion document titled 'Annexure – Baseline Drought Consultation Outputs'. This annexure is the depository of the primary output from the various regional stakeholder consultations conducted as part of the 'Baselining Drought' project between June & December 2022. To review the primary information underpinning this report, please read 'Annexure – Baseline Drought Consultation Outputs', which is available via request from the Hub.

Definitions

The Hub – The Southern NSW Drought Resilience Adoption and Innovation Hub

LLS – Local Land Services

ESG – Environmental Social Governance

NSW DPI – New South Wales Department of Primary Industries

DAF – Drought Assistance Fund

BC – Intermediate Bulk Container

NRM – Natural Resource Management

Knowledge Broker – A member of the Hubs Knowledge Broker Network

The Fund – The Australian Government's Future Drought Fund

Recent drought - the drought period from circa 2017-2019 (depending on region)

Millennial Drought – the drought period from circa 2001/2 - 2010 (depending on region)

NSW RAA – New South Wales Rural Assistance Authority

RIC - Regional Investment Corporation

EWIR - Emergency Water Infrastructure Rebate

STEP 1 – COLLECT THE INFORMATION

The information contributing to this report came via:

1. A short online survey pertaining to experiences and observations of drought across the Hub region;
2. An open call for written online submissions guided by a broad terms of reference;
3. Attendance at other organisation meetings via video to present the project and facilitate group discussion for contribution;
4. Facilitation of targeted community-based workshops to present the project, explore themes and capture participant perspectives; and
5. External consultation of LLS regional personnel to identify and report on experiences and observations of drought.

All information is unique and original to the project. No information was included from outside sources.

Previously commissioned Hub reports including Community Engagement Interviews undertaken by the Farming Systems Group Alliance and Rural Aid were used to provide foundational context.

Generally, throughout the report the consultations and written submissions accounted for most of the project findings.

Where relevant, data from the online survey was used to reiterate or qualify the findings, or provide a new finding not captured by the consultations and submissions.

As mentioned, to review the primary information underpinning this report, please read 'Annexure – Baseline Drought Consultation Outputs', which is available via request from the Hub.

The complete record of consultation activities undertaken in the Baseline Drought project is provided in Table 1 below.

Data collection mode	Participation	Consultations			
		F2F	Zoom to F2F	Zoom	Total
Consultations	164	5	6	6	17
Submissions	24				
Surveys	68				
LLS/knowledge broker submissions	4				
Total	260				

Table 1: Baseline Drought project consultation summary @ 16/10/22

STEP 2 – COMMON THEMES - REPORTING ON THE COMMON INDICATORS, IMPACTS AND EXPERIENCES OF DROUGHT COMMON TO ALL REGIONS

The common consultation outcomes of this project – common themes – from across the five Hub nodes have been reported first. These themes align approximately with the initial project subject matter terms of reference being: agricultural productivity and profit; rural communities; indigenous values; and landscapes. More themes were uncovered as the project progressed, and these have been included to allow a more granular analysis of the consultation outcomes.

STEP 3 – NODULAR NUANCES - REPORTING ON IMPACTS AND EXPERIENCES OF DROUGHT UNIQUE TO CERTAIN REGIONS

This step focuses on impact and experiences of drought that were either distinct to, or emphasised in, certain nodes within the Hub’s geographical footprint – the ‘nodular nuances’. This part of the reporting seeks only to represent distinctions in drought experiences and impacts between nodes as represented to the project team during the consultations.

The five nodes describing the geographical footprint of the Hub are illustrated in Figure 2 below. The nodes are:

- **Western Rangelands**
- **Central**
- **Orange**
- **Monaro & Capital**
- **Coastal**



Figure 2: The five geographical ‘nodes’ of the Hub.

STEP 4 - POST DROUGHT – REPORTING ON THE IMPACTS THAT CONTINUE TO BE FELT AFTER THE DROUGHT

The last part of the reporting seeks to identify the impacts and experiences after drought. There was limited feedback concerning after-drought impacts and experiences and, consequently, the findings were not broken into themes or nodes as a result.





PERCEIVED INDICATORS OF DROUGHT

The indicators of drought were addressed, but respondents appeared strained in answering the question. Responses varied from glib “the weatherman” to more robust indicators such as antecedent rainfall.

Indicators of drought provided by agricultural service providers (technical specialists)

- Rainfall deficit, increased demand for fodder, reduced liveweight gain in field, and lower livestock conception rates;
- Increase in enquiry relating to feeding livestock (particularly for supplements e.g., making use of low value feed);
- Interest in information on farm water quality/quantity;
- Increased discussion around total grazing pressure control – how to spell or preserve pastures with increased pressure from kangaroos;
- Decreasing confidence of markets, increased activity for agistment, increased questions around feed budgeting, and animal health;
- Destocking of different livestock categories;
- The area, species, and variety sown to crops becoming conservative;
- Increase in dust storms;
- Declining groundcover (a trigger/signal to commence preventive measures);
- A resurgence of dust in landscape (despite land management changes); and
- Declining antecedent rainfall (can be used in conjunction with groundcover as an early indicator of seasonal deterioration).

Indicators provided by farmers

- Selling of surplus livestock (non-core breeders) and not joining ewes due to seasonal outlook,
- The drying of the Great Darling Anabranch,
- A reduction in rolling average rainfall,
- Running out of water long before feed where there are no permanent waters,
- Consecutive failures of the growing season,
- The reliable seasonal indicators become less reliable during drought,
- Decrease in underground water storages (aquifers),
- Pressure on fences from wildlife and stock,
- Stress and anxiety among farm staff.

Indicators provided by communities and other stakeholders

- Reduction in media advertising from local businesses,
- Increase in grass fires and subsequent emergency management response and radio announcements,
- Build-up of dust on windows, being topsoil blowing off the farming country to the west,
- Footprints in the dry grass remaining,
- Kangaroos / wallabies / birds start eating plants they previously ignored (particularly in domestic gardens).

STATEWIDE OBSERVATIONS OF IMPACTS OF DROUGHT

Farm businesses

The impacts on, and experiences of, farm businesses during the drought were the most addressed subject matter throughout the project. The consultations and open call submissions uncovered impacts of drought on farm businesses that have been previously documented, such as decreased income and production, and increased expenditure.

In the online survey, 'financial impacts' and 'production and sales impacts' were the second and third most negatively impacted areas of interest, respectively. After drought, financial impacts were the most strongly negative residual impacts of the drought, suggesting limited financial recovery.

However, some more nuanced responses provided a more granular understanding of drought and farm businesses.

Livestock prices remained relatively high when compared to previous droughts

The sustained livestock prices were noted by many farmers. This contrasted with previous droughts where livestock prices fell dramatically.

“Thankfully, livestock prices remained firm so those who had to sell stock received good prices.”

With reasonable returns available from hand-feeding sheep and cattle, subject to the usual assumptions of cost of feed versus price of product, and the duration of feeding, many farmers had the option, or decision, of whether to feed or sell their stock. This was said to present a problem:

“Due to high livestock prices most livestock producers were encouraged by agents and industry to hang on and feed livestock at all costs. This was a very poorly thought-out message that actively discouraged landholders from destocking when they and their land really needed it.”

Livestock feeding required large amount of working capital, equipment, and skill. Although there was a business case for feeding in some circumstances, the lived experience of hand feeding livestock revealed management challenges that are associated with bringing livestock under the full dominion of the livestock manager:

“In late pregnancy we experienced significant issues with pregnancy toxemia, pneumonia, [and] campylobacter resulting in abortions and death.... Despite the ewes being well fed and in condition score 3, the lambs born in that year, that we retained as breeders, have never performed well.”

Hand feeding livestock also puts pressure on the landscape, especially if farmers do not have livestock containment areas. The following comment, the perception of one respondent, is not diagnostic of the land degradation potential of feeding livestock, but does suggest that the choice of sacrifice paddock and feeding method fed needs careful consideration to increase the chance of successful outcomes:

“He also suggested from his personal [grazing] experience that sacrifice paddocks are a failure and take 5 times longer to recover (up to 3 good years to get full groundcover).”

There were also positive representations from feeding livestock. Some commented that they were able to maintain production through the drought period by feeding, cutting wool, and producing beef and lamb as they had done. Some suggested that this was possible and necessary to continue servicing debt on businesses.

The drought caused debt to increase

Farm debt generally increased over the term of the drought in response to the additional financial requirements of feeding stock and the reduction in production and income. The additional debt either came early for those that fed their stock, or late for those who sold stock before replacing them at inflated prices at the end of the drought. The livestock feeding expenses ran into the millions for some commercial-scale grazing businesses.

The outcome was similar for cropping businesses who invested in crop inputs only to suffer failed or low yielding crops. Some cropping businesses that did achieve some harvest of either grain or hay, or were able to agist stock onto failed crops, capitalised on an inflated stock feed market, especially towards the end of the drought.

The input from the banking sector was limited to the representations of two bankers. They suggested that some banks were quick to exit those businesses turning a loss, but their bank would prefer to maintain open and supportive relationships with existing clients to ensure their ongoing viability. Noting the vested interests in these comments, additional, less invested, comments from the banking sector would be informative.

Comments from a finance broker suggested that financiers were generally happy to help farmers who were proactive and got in touch early, however, those that were not, paid the price of restricted access to working capital and general lack of support.

Access to working capital after drought became an issue, especially in the wake of the royal banking commission. Banks reassessed the agricultural industry after the drought, leading to an increase in risk rating and decreased ability to borrow additional working capital. This resulted in little regard being paid to borrowing interest rates as farmers scrambled for access to capital, often from second- and third-tier lenders (or non-bank lenders - lenders who don't hold a banking license requiring they find their own wholesale funding from other sources, i.e., building society or credit union. Many of third-tier lenders will secure their funds from the big banks themselves).

Farmers were better prepared thanks to the Millennial Drought

Notwithstanding that farmers felt they were not prepared for a three-year drought, some farmers felt they were better prepared for the 2017-19 drought than they were for the Millennial Drought:

“...learnings from the Millennial Drought were able to be enacted resulting in either reduced impacts of the 2017-21 drought and/or stronger recovery.”

However, the most recent 2017-19 drought differed to the Millennial Drought in that it spread over a much broader geographical area. The consultations through the central region often

raised the point that the Millennial Drought was much worse through their region (Deniliquin and Hillston) than the 2017-19 drought, but also more confined. The Millennial Drought didn't have any effect in some other areas of the state. The implications of the most recent drought being so wide spread is that very few options to send stock on agistment and to source feed from.

Men were more likely than women to perceived improvements in innovation and decision-making ability after the drought

The survey results showed that men perceived mild positive impacts of the drought on innovation and decision making after the drought. The same sentiments were not shared by women. These results were supported by some representations from men:

“...farmers have far better farm and drought management skills now and are constantly reviewing & improving their practices to ‘do more with less’ and searching for innovation.”

“Increased skills and innovation in animal nutrition was seen as a positive from drought”

However, a lack of usable analytical tools available to help implement drought plans, especially sell/feed decisions, was identified.

Three-year droughts appear to be beyond the preparation and management of even the best farmers

Some regions experienced protracted drought conditions. Stored feed reserves ran out, agistment options dried up, cash reserves ran out, the livestock market fell, and the feed market rose. This suggests that there's a magnitude of drought that will be hard, and possibly impractical, to prepare for:

“Most clients are prepared for a one-year drought, the better ones are prepared for a two-year drought, but the third year of drought caught even the best off-guard.” – Rural Financial Counsellor

Interestingly, not all respondents' suggested preparation was key:

“No, you are never prepared, nor should you aim to be, you need to be able to manage what actually happens and have the ability to make decisions regularly.”

There was a subtle emphasis on the importance of timely and better-informed decision making as a proxy for drought preparedness. This was underpinned by sentiment that drought circumstances differ each time they occur and even the best plans go by the wayside; instead, farmers needed to be flexible, proactive, and make the best decisions with the information available at the time.

This raises the differences between farmer approaches; some flexible and responsive, and some rigid and strategic, which has a large influence on the experience of drought between farmers:

“...[we] sell stock upfront and don't believe in feeding stock in the Western Division.”

There was frustration among irrigation-based businesses over water handling during the drought

Irrigation water management during drought was a large concern in the irrigation areas. This summary, and indeed report, does not fully capture the extent of the irrigation challenges during drought, but does seek to acknowledge that irrigation water management had a huge impact of agricultural business in the irrigation areas and that the impact was generally perceived negatively.

The general sentiment among irrigation businesses of the Deniliquin, Coleambally and Griffith areas was that irrigation water was kept from them during a time of need. It was contended that irrigation regions were designed to be food bowl for the state, particularly during drought times; however, Government intervention in water policy negated this during the drought.

There were concerns about the amount of water being released down the rivers for environmental flows. Observation of local irrigators suggested that these environment flows were actually causing as much environmental harm as they were benefit.

Some farmers challenged the traditional definition of 'drought'

Some farmers challenged the traditional definition of 'drought', suggesting that the current prolonged, wet winter they had been enduring was as bad or worse than the drought. The current wet winter was causing undernourishment of livestock, waterlogging of crops and pastures, animal health issues, and infrastructure issues. Exacerbating these issues was the fact that farmers were unable to access large amounts of their properties to feed stock or take remedial measures, leaving them feeling more helpless and less in control than they were in the drought.

"The definition of drought needs to be expanded to capture either extremity of rainfall."

The suggestion was that the notion of 'drought' needed to be expanded to capture either extremity of rainfall that had a negative impact on their businesses to enable more comprehensive investment and planning into climate change readiness.

Agriculture labour is a huge issue in the aftermath of the drought

There has been a widely publicised lack of seasonal workers, especially fruit pickers in the horticultural regions. The reasons for this are easily confounded with the effects of the Covid 19 pandemic but forced lay-offs and reduction in agricultural activity during the drought pushing people out of the communities was suggested to be a major contributing factor.

Labour shortages were identified as not restricted to horticulture but felt by most other agricultural industries.

However, some pragmatic insights suggest it's not just drought, but agriculture's response to drought and declining terms of trade, that is causing decreases in labour:

"This innovation [that comes with the drought] means that the labour is now not required, so there won't be the same number or type of jobs to return to."

The drought 'accelerated' some next generation farmers into the business

Notwithstanding the heavy toll the drought took on family cohesion, in some instances the

drought had the effect of bringing the family together in financial decisions, exposing of the younger family members to the business side of farming and accelerating them into the businesses decision making.

FMDs were observed to be great way to manage seasonal fluctuations of income

Farm Management Deposits were mentioned on two separate occasions as a great innovation to help farmers distribute their income over multiple years and avoid the debilitating effects of tax on farmers forced to sell stock in the face of drought.

EDUCATION & CHILDREN

The impact of the drought on children and their education was raised on approximately 14 occasions during consultations, and in the open call submissions.

“Thinking about the millennial drought, Mark suggests that we lost a generation coming back onto the land during this period.”

“...there are many kids out here that won't ever return [to the family farm] due to the feeding sheep experience.”

Lasting impacts have been observed in children from previous droughts (pre-2017) and this has been reiterated in the most recent drought. The impacts are perceived as negative and have caused concern about the willingness of our future farmers wanting to partake in the farming industry.

“Schools were impacted due to the mental health concerns of families, and this would have impacted the children in a very negative manner.”

“Erica's day-to-day job is driving a school bus route, which provided her with insight into the big mental health problem on kids who often confided in her.”

The traumatic effects of drought such as seeing dead and dying animals, parents being stressed, having to miss school to assist on-farm, have been observed by parents, teachers, and school bus drivers. Children were forced to grow up quickly during the drought and learn adult skills, such as manoeuvring feed carts and trailers, to help their parents.

“In 18/19 families were forced to choose which sibling they could afford to send away to boarding school, creating another layer of stress for families and their children.”

Drought causes significant impact on education due to financial constraints. Yanco School in Leeton was noted as having only half their normal intake in 2019 with their catchment being the drought impacted southern and western NSW. There were concerns about short-term drought events effecting the long-term education and capacity of bush children, often with no local public schooling available, and calls for a public program that decouples rural children's' education from the ebbs and flows of drought-induced economic hardships of farm businesses and rural communities.

Any prolonged reduction in school children numbers lead to reductions in staff allocations and eventually to school closures. This had lasting impacts on community due to increased

travel to other schools, reduction in local population and decreases in services associated with education such as bus travel.

INDIGENOUS IMPACTS

The impacts and experience of the drought were keenly felt by the indigenous community. All of the indigenous community consultation came by way of face-to-face consultation with the Western LLS Aboriginal Community Advisory Committee, and Lawrence Clarke during a Western LLS board meeting. Consequently, the views were more representative of the Central and Western Rangeland nodes. The open call for submissions and survey did not canvass any indigenous respondents.

To provide indigenous perspectives from the coastal region, Jade Kennedy has reviewed the project outcomes regarding indigenous impacts and has provided feedback on contemporaneous indigenous drought impacts and experiences in the Coastal node. Jade Kennedy's credentials to provide this insight are that he is the Hub's First Nations Knowledge Broker based in Wollongong, Academic Developer and lecturer in Indigenous Knowledges at the University of Wollongong, and Chair of the Illawarra Local Aboriginal Lands Council.

The amount of bush tucker available was reduced

The drought caused reduced fruit and seed germination, and there was a lack of diversity in species, which prevented traditional harvests, e.g., emu bush and old man's weed. Further, the drought reduced supply of popular food sources such as goanna, kangaroo, emu, fish, crayfish, river mussels, and an unprecedented loss in turtles.

The reduced supply of these food sources had a significant impact on indigenous culture, causing worry and concern around losing connection to country, particularly in the community elders. In some instances, there was even an increase in trespass as people looked further afield for bush tucker. For example, it was tempting to keep walking along river banks onto private land, or not be aware that it was private land, in search of bush tucker.

The was a lack of traditional meeting places and sacred sites were exposed and damaged

The role of river as a social construct and meeting place for indigenous people is very important. As the Barka (Darling River) dried up, communities ran out of traditional meeting places to meet with family and friends. Damage to sacred sites normally protected by natural water features was observed. It appeared that it became harder in drought for the indigenous community to enjoy the access to the land and doing the things they enjoyed on the land.

Seeing the countryside in poor health was a source of distress

Observing the countryside in poor health, such as the river dying up, the algae blooms and fish kills, the poor and dying wildlife, dust storms, and windswept landscape, caused emotional distress in the indigenous community. There was a comment that when there is "no water in the Barka, there is no life".

After the drought the explosion in weeds such as Yellow Pea bush, Duckweed and Mimosa was observed.

There were less jobs available

Around Wentworth, unemployment through usual employers' fruit blocks & gardens was reduced because of water restrictions / reduced irrigation water, and there were no other employers to turn to for work. There were negative comments concerning the oversubscription of water licences, and the meddling of government in water. One participant considered it ridiculous that the water could even be owned.

Non-indigenous community sentiments regarding the perceived adaptation of indigenous people to drought caused distress

The indigenous community found non-indigenous community perception and comments around the drought not affecting indigenous people because of their history and heritage in surviving off the land distressing. It was obvious that the drought did affect the well-being of the indigenous community and it was even made harder by current social circumstances, and the reduced access to land compared to pre-colonial days, and the additional impacts of grazing stock on the landscapes.

The cumulative distress cause by the drought cause some of the indigenous community to 'act out'

The protracted drought and its cumulative impacts were emotionally draining on the indigenous community and, it was suggested, it caused some parts of the community to 'act out' in frustration. Increased violence and aggression among the communities, especially in the younger generation, was observed. Kids didn't want to be at home, and emotions were running high.

The impacts of the drought on the coastal indigenous communities

The following section is commentary by a Coastal indigenous representative on the findings from the Central and Western Rangelands indigenous communities. The content has been presented as a response to the western experiences.

General observations:

- There is a strong correlation and relationship between the health of Country and the Health of Community,
- There is trauma, distress and sadness amongst individuals and communities when Country is unwell,
- Unwell Country leads to unwell people,
- Unwell people for us results in an increased use of alcohol and drugs, which in turn becomes reflective and indicative of increased domestic violence, increased vulnerability and potential of harm for children, and increased potential for imprisonment.

The South Coast fires of 2019/2020 would present the greatest Aboriginal community-felt impacts of the drought between Sydney and Eden and then across to Mallacoota. The bushfires, being so dramatic and devastating, resultantly brought Aboriginal and non-Aboriginal communities together and increased the local awareness of the lack of water within the rivers, creeks and streams, but also within our bush. Coastal Aboriginal people began to speak about the reason then as to why bush medicines were not fruiting in the right times, and why mullet were spawning later than usual. Aboriginal communities along the South Coast of NSW experienced

a delayed and reflective set of impacts from the on-going drought which also gave us a more intimate awareness of the situation Western NSW Aboriginal people were experiencing.

Re the extent of drought impact on Indigenous communities

On the coast, drought was being experienced mostly by those who worked in fields that intersected with Country regularly [NPWS (National Parks & Wildlife Service), DPI, Fishers and Divers, Oyster Farmers], up until the bush fires of Christmas 19/20, where everyone became deeply aware of the lack of water and started to acknowledge how dry Country was.

Re the reduction of bush tucker and medicine availability

This reflection was observed to be noteworthy and appreciated in the context of understanding the Aboriginal drought experience. Where the Coast did not feel this impact on Country and resources as harshly [as the West], there was definitely a reduction in available bush foods and medicines, and a noticeable change in the size of mussels for example. One of the most significant recognised shifts was that bush medicines were not appearing when they usually would, and now on reflection this was just prior to the large bushfires.

Re the lack of traditional meeting places and exposure of sacred sites

There was awareness of this on the Coast [of the lack of traditional meeting places and exposure/damage of sacred sites], and there were delegations of Aboriginal peoples appealing for support with the Barka and the recognition of its importance to community health and well-being. Again, correlation comes more so through the impacts of the bushfires, where Aboriginal sites of significance become exposed through the loss of their protecting habitats, beyond purely suffering the impacts of fire. It is important to also consider that this becomes a little more complex again - for some known sites in these areas there are also water loss impacts associated with mining and forestry.

Re the negative impact of the countryside's poor health on indigenous communities

This sentiment is deeply supported by many of the Aboriginal rangers within the NPWS. As their roles are predominantly on Country, and involve acts of 'caring for Country', they were noticing and reflecting back to communities the dire 'browns of the bush', the dryness and lack of animals and birds around. People would yarn about this and lament, however this was more a momentary reflection of sadness and not something that the majority of community members had to reflect on daily. The impacts of the fires however, and not just during the events, still up until today, is being spoken about with sadness, anger and pain, and lamentation.

Re the reduction in available jobs

The demographic representations of Aboriginal people in the workforce along the Coast is very different from the west. Our seasonal works comprise mostly of fishing, and fishing-related activities, prawning, abalone gathering, oyster shucking etc, and generally these industries have continued with little [drought] impacts.

Re non-indigenous community sentiments regarding the perceived adaptation of indigenous people to drought causing distress

While this this sentiment was validated for the Aboriginal peoples of the [Central and Western Rangeland nodes], this was not reflected on the Coast. Devastation from the impacts of fire (as a proxy for the drought) actually brought Aboriginal and non-Aboriginal people together. However, there was observation of some occurrences on the Coast of the distress of non-

indigenous sentiments on indigenous people].

Re the drought causing some of the indigenous community to ‘act out’

This finding was also validated for the Coastal node drought experience. These were suggested to be some of the more silent or softer aspects and impacts of changes across Country. Similar reflections are presented on the Coast as resulting from the COVID lockdowns, where a shift and change in the relationships Aboriginal people have with places and spaces that they are regularly engaging with change there is an increase in ‘acting out’ behaviours.

MENTAL HEALTH & GENERAL HEALTH

The impacts of drought on mental health, and mental health services, were identified on 20 separate occasions in the consultations and open call submissions.

Further, the survey indicated that during drought ‘Personal well-being impacts’, a suitable proxy for ‘mental health’, was the 4th most negatively impacted area of interest.

“Mental health – underline it in your report”

“While there are still difficulties accessing mental health facilities, people are becoming more open about their experiences”

There was general agreement that the societal perception of mental health, particularly in men, had reached a positive turning point in the 2017-19 drought. The consensus was that mental health was no longer a taboo subject. People suffering mental health challenges were more open to talking about it and to seek help and those not suffering were more cognisant and understanding of the issues. The very fact that a group of farming men were able to, unprompted, raise the subject during the project consultation and talk about it freely was considered a significant improvement on what the approach had been during the millennial drought.

“...while everyone was aware of the increased mental suffering across primary producers, no one felt equipped to help or carry the additional mental load.”

Although the stigma of mental health had been reduced, there wasn’t sufficient mental health services available, or accessible, to cope with the burgeoning mental health demands. The term ‘accidental counsellor’ was used to denote the important but dangerous and taxing role many farming support and service providers fell into while supporting landholders suffering under the strain of drought. There was fear among support personnel attending farms about what they may experience or witness. There were calls for central and accessible mental health services and mental health training for communities.

Regarding general health, the financial impacts of drought were observed to be sufficient to stop people from undertaking health treatment – cancer treatment in the case of this consultation - where travel and accommodation was required, potentially impacting quality of life and life expectancy.

“... the time away from the farm and feeding was a limiting factor in their seeking or continuing specialist treatment away from local towns.”

LOCAL GOVERNMENT

Local government impacts were centred predominantly around the maintenance of council assets. Water restrictions hurt public lawns, sporting fields and parks. Maintenance was reduced to parks and gardens. Lack of water for public gardens sparked some interest in reassessing how waste water may be reused and interest in native species increased, particularly grasses.

Gravel roads deteriorated quickly under the increased pressure of livestock, water, and fodder trucks, especially in the western regions, yet were unable to be maintained due to the lack of water.

Conversely, there were indications that regions with sealed roads fared better during the drought because the dry conditions prevented the roads from deteriorating as fast.

In response to overdue Council rates, some Councils waived interest and didn't chase debts.

KANGAROOS AND THEIR IMPACTS WERE OMNIPRESENT ACROSS THE NODES

Kangaroos were mentioned on 11 different occasions throughout the consultations and open call submissions. In some consultations, such as with the Kangaroo Management Taskforce, the issue of kangaroos formed the basis of the conversation and was unpacked by each meeting participant.

Interestingly, representations regarding kangaroos were not confined to the west of the state, as some may expect. There were equally strident views presented in the east of the state. Kangaroos elicited robust discussion in some instances, emphasising their impacts and resulting frustration among farmers.

A key impact of the kangaroo was their aggravating effect on the impact of drought:

“The impact of kangaroos (1000 on 300 acres) was unprecedented and unplanned for, exacerbating total grazing pressures even on those with well-managed pastures and landscapes.” – Moss Vale

“...landholders also bore the burden of the significant increase in kangaroo population which moved onto their lands to access to both fodder and water.” – North East NSW

“Woolly Butt has been slower to recover as kangaroos dug it out and ate [its] roots” – Western NSW

“...producers felt that kangaroo pressures brought the drought forward by six (6) months” – Western NSW

Generally, kangaroos competed for dwindling pasture and fodder reserves, and grazed emerging crops. This meant that stock had to be removed earlier, or fed earlier, more, and longer, creating additional financial pressure. Crops had to be resown or abandoned. One respondent provided a case study demonstrating the financial impact of close to \$800,000 for the financial year 18/19 due largely to kangaroo pressure.

Total grazing management was stifled by kangaroos. When stock were removed, preserved groundcover and grass was wiped out by kangaroos, exacerbating the drought symptoms of dust storms, scalding and water erosion after the drought. Scientific studies comparing the remnant ground cover of SA versus western NSW was cited, stating that low kangaroo numbers

in SA meant much higher levels of remnant vegetation.

Instances where kangaroos moved from National Parks onto private land in pursuit of water and feed were cited.

Kangaroos also impacted on the psyche of people:

“... Terry expressed concern about the ongoing traumatic effects ... [of] dead and dying animals [kangaroos] lining the highways and piled up under the only available trees, as well as finding them dying in sheds and in near proximity to homes.”

There was clear frustration that due to an inefficient approval process and ineffective permit numbers there seemingly was limited practical means to managing the kangaroos, despite being considered as unwitting beneficiaries of man-made permanent watering points and improved grazing resources. National parks were not favourably regarded due to their land management practices of filling in of dams and thereby adding extra pressure to watering points on neighbouring properties.

The predicament of starving and perishing kangaroos en masse was portrayed as a human induced animal welfare catastrophe. The “smell of death” was said to persist where the kangaroos died along roadside, by watering points, under trees, and in sheds. Kangaroo harvester’s incomes were reduced due to low carcass weights, and their role appeared to morph into that of culling, often to their distress.

Other key observations of kangaroos were:

- The NSW DPI (Department Primary Industries) Drought Indicator maps didn’t account for the effects kangaroos,
- There were more kangaroo related car accidents during the drought, and long wait times on car repairs and insurance claims,
- Kangaroo populations increased quickly after the drought.

DROUGHT ASSISTANCE AND SUPPORT MEASURES WERE VARIED IN THEIR SUCCESS

Drought-affected businesses continued to fall through the cracks of assistance

The drought had a significant effect on the rural contracting industry, from a decrease in demand for services, to prolonged late payment terms, to an inability to pay for works already completed. Due to eligibility loopholes, these businesses were often not able to access essential support funding as primary production businesses nor small businesses, resulting in some rural contracting services relocating to other areas and an increased demand for those service providers ongoing, with long-term impacts on the timeliness of services being available to complete (often) time-bound farming operations.

Instances of skilled personnel being forced to relocate to secure employment were provided across the region, with specific examples being the manufacturing workers of SunRice, skilled telemetry staff at Murray Irrigation and others such as mechanics, boiler-makers and educators all experiencing ongoing staff shortages.

Drought assistance measures favoured those who hadn't made any attempt to diversify their income

Businesses that had worked hard to implement diversified income sources as drought mitigation and prevention strategies often found themselves ineligible for still-required assistance and support measures due to the shift in predominant income source. Experiences provided of instances of value-adding such as cellar door sales, agri-tourism/accommodation, carbon trading and off-farm income becoming the predominate income source due to the economic impacts of drought, resulting in businesses becoming ineligible for both drought support / recovery assistance and primary producer status. The disparity between the treatment of off-farm income / value-added income between government agencies and the ATO has also caused confusion and stress for businesses who have tried to implement drought mitigation strategies such as diversifying income streams and asset bases.

The shifting focus from disaster to disaster prevents momentum in recovery

It was observed over long-experience of droughts (some 30 years plus for some participants), a problematic pattern of surges in government funding, staffing and intervention during and after drought, only to be followed by the dispersal of staff and the shelving of projects and programs, a pattern repeated with the subsequent drought:

“... A lack of planning and support from government and agency's results in no learning, no shared planning or communication and wasted (sic) funding. We pay a rural levy but no one knows where the money is spent...”

The suggestion was that the governmental departments reactive and short-lived interest in the drought meant that projects were often not finished; lacked impact or were short sighted; there appeared to be ‘rework’ – the same consultations, the same departmental chatter; and that experienced personnel and their ‘corporate knowledge’ of drought is lost as their roles were made redundant after the drought.

There is often a disparity between drought assistance and support programs in their intent and delivery

The Emergency Water Infrastructure Rebate (EWIR; provided through the NSW Rural Assistance Authority) was cited as evidence of policy and program not aligning with intent. Due to narrow eligibility criteria, producers who had undertaken water infrastructure drought mitigation works in the FY'17 were not eligible to apply for retrospective EWIR funding when the program was announced in FY'18. Rewarding those who wait until drought strikes before they act on important water infrastructure while denying the proactive farmers the same assistance clearly illustrates the contradictions between the intent and reality of the EWIR (and other) program.

Quirks within some of the assistance programs targeted at farm staff support were also raised:

“...Illogical processes to access funding did not always assist mental health – for example, [for a farm business owner to have to] sack their farm worker and have him re-apply [for the same job] in order to access existing drought support measures for employees...”

“...Not being able to put cattle on the back rural roads where there was feed that ultimately became fire fuel was crazy...”

With regards to 'community'-driven assistance, across the regions it was suggested that those with drought plans and financial resources in place to buy and transport fodder were often pushed out of the market or forced to pay inflated prices due to high market demand resulting from well-intended programs such as Buy a Bale and Hay Runners.

From the community perspective, it appeared that often agency drought assistance provided wasn't assisting farmers in the way they needed and was in fact offering them something quite different to what they needed. This compounded the sense of helplessness expressed by community members about how best to engage with and support producers.

The stress of coordinating and distributing donations within the community often had a negative impact on those charged with the responsibility

This was noted as leading to instances of community ill-will towards those seen as unworthy recipients of the charity, with loopholes and eligibility criteria for assistance creating significant impacts causing stress, jealousy, and unrest.

Community groups such as Rotary and Lions spoke of the impacts in pressure to distribute funds/assistance, both in terms of delineating who to distribute to as well as the increased time-pressures for small volunteer groups who often include farmers already struggling with their own drought-induced time-constraints. It was a common insight across the region that drought donations are hard to distribute due to pride of producers / community members who always think there is someone worse off.

Where able, many farmers took advantage of Government assistance but longer-term these measures can prove problematic

Programs such as the NSW Rural Assistance Authority's and the Regional Investment Corporation's (RIC) 0% and low interest loans were evidenced as useful to finance drought preparedness measures such as haysheds, silos, and water infrastructure. However, observations of producers utilising NSW state-funded Drought Assistance Fund (DAF) loans to buy in replacement livestock post-drought from places like Western Australia at vastly inflated prices, has resulted in farmers left with devalued stock following recent downwards corrections in sheep prices and stock loans which still need to be repaid.

Raised in discussions across nodes was the difficulties in physically applying for Government assistance. A lack of educational capacity to complete the necessary paperwork to access drought supports compounded stress, while the time required to access support during periods of increased workload was cited as another barrier to accessing support measures.

"...The significant time required to even apply for support was...another compounder of stress, with producers spending up to 20 hours a day simply managing the day-to-day aspects of drought such as queuing for livestock water, sourcing water and fodder and trying to access additional credit / finance for fodder purchases, handfeeding livestock..."

Post-drought observations of producers refinancing their government loans back to commercial banks were provided, with reasons being the ongoing onerous administrative demands and end of interest free terms from Government lenders, and comparable rates but better ongoing support and relationships provided by these organisations.

Valuable insights into productive drought support measures



Community and industry group discussions provided valuable insights into lived experience of drought assistance and support at the receiving end, and the community group sessions were able to clearly articulate thoughts and strategies for improved support into the future:

“...in regional and rural areas people employ workers and often must let them go during drought which causes widespread distress and social upheaval...it would be very useful to have a support like Jobkeeper to maintain staff during seasonal downturns...”

“...having mentor support from senior staff who have managed drought” - Agricultural consultant

“...decision making support in farming groups was particularly important, Mark suggests that farmers need to have information and support coming from the ‘inside’, not outside [their networks and communities]...”

“...we need...really good, long-term forecasts that people believe in. A lot of people still don’t believe the forecast that’s tomorrow...”

“...While the increased demand for IBCs (intermediate bulk containers) caused some frustration, the overall impacts of ensuring safe water supply was...the type of support and assistance all communities can benefit from, regardless of the type of natural disaster...”

“...The psychology and some of the tools that governments use actually work against good management. Psychology is difficult because people always live in hope. Some of the tools like subsidies for transport only occur well into a drought. There should be government subsidies for transport provided early based on, for example, ground cover predictions or ground cover mapping. That’s when subsidies for transporting stock out should be initiated and they should be time limited. If you don’t do it in the first three /six months, six (criteria dependent) you are not then eligible. Some current policies mean that people hang on until subsidies become available, or they get living allowances or whatever the subsidies might be...”

Other key observations of drought support:

- Farmers took exception to visiting ministers who listened to their recommendations, asked for a photo shoot, and then appeared to do nothing
- Considerations were raised about what the implications on drought support measures may be for Management Induced Drought versus Natural Induced (climatic) Drought
- While Rural Aid was able to provide support funding for children to attend excursions etc, the cumulative impacts of drought and subsequently Covid 19 has resulted in a significant decline in the mental health and overall wellbeing of the local children
- Conflicting support packages for cropping vs animal businesses, and very limited support for service industries increased stress
- It was noted that Landcare appeared the nimblest of support agencies and was able to shift and redirect funding and support to where it was needed in a timely and useful way.

THE ENVIRONMENT AND LANDSCAPES

The impact of the drought on the environment and in particular, the landscape was often cited. The headings below unpack the various themes provided by the consultees.

The survey showed that although hit hard during drought, the environment and landscape generally bounced back

The online survey asked respondents to nominate the impact of the drought on the environment and the landscape during and after drought; trumping the nine other areas of interest, environment and landscape was considered the most negatively impacted during drought. However, although the survey still showed a slight negative impact of the drought on environment and landscape after the drought had ended, it also saw the largest improvement in impact after the drought. In summary, as perceived by the survey respondents:

- Drought heavily impacted environment and landscape during drought,
- There were still some negative impacts on environment and landscape after the drought, but
- The environment and landscape had recovered more than any other area of [project] interest.

Frustration that environmental plans are causing environmental damage

There were comments that the environmental flows of last 5-6 years caused more environmental harm in forests than the drought during discussion with Deniliquin community members. Silting of waterways, sucker growth, undergrowth and restricted access were all provided as causes for alarm for the local community, with significant fears about the ability to prepare for and fight future fires in the forest surrounding the town of Deniliquin.

Due to the historical availability and reliance of irrigation water, drought in irrigation areas was viewed as man-made from environmental 'plans' rather than a natural event. Many representatives from the irrigation sector across the Central region spoke of the additional mental fatigue of water politics, on top of the stress caused by the lack of water availability.

Environmental management

Frustration was expressed by some farmers that other farmers failed to set and act on trigger points when drought hits, with relation to groundcover, fodder, stock prices and carrying capacity. In contrast to the general positive sentiment of improved knowledge and skills in farmers due to previous drought experience, it was suggested that there is a cohort of landholders who are unwilling or unable to change their practices, either because of intergenerational pressures, a lack of knowledge, a lack of financial resources to prepare, or the expectation that the government will bail them out.

"... drought stops at the farm boundaries because the farmer comes out of drought...better than the bloke on the other side. He's absolutely flogged that country down to nothing. And those boundary lines sometimes take a long time for some properties to recover. They don't all bounce back given the same amount of rainfall..."

"...with programs like RCS (Resource Consulting Services) [Grazing for Profit et al] available to anyone, there is no excuse, I mean no excuse, not to be prepared and be able to manage your business through drought..."

The environment and landscapes provide a range of useful drought indicators and

monitoring points

Natural watering point observations, native tree die-back and regeneration, seed load, and flora and fauna recovery were all utilised throughout the drought and recovery to assess impacts and recovery. Evidence was provided that the groundcover during the '19-'21 drought was the lowest in 20 years, and worse than 2009 in NSW by 10%. The period also saw the second-highest level of dust storm activity since 1945.

“...Erosion due to decreased groundcover is a key signal of and impact from drought...”

Further west, the lack of wildlife tracks in sandhills was seen as indicative of the severe impacts of drought.

The perceived mismanagement of conservation areas is turning public opinion against them and affecting the funding and financing options available for their establishment

There was conversation concerning the perceived mismanagement of conservation areas and how it was creating negative perceptions of them. The example provided was the mismanagement of national parks leading to high fuel loads and bushfires. The negative perception of conservation areas then impacts the ability of private conservation initiatives to source financing and maintain private conservation areas. This was considered an issue as conservation areas were considered to play an important role in drought management, research and public education.

Increased spread of noxious seeds and weeds during & post drought

A key impact of the drought was on those who had undertaken a significant and long-term approach to the management of invasive grasses (i.e., African Lovegrass in the Monaro region) who during the drought didn't have either the time or resources to continue this management approach and subsequently found their landholding back to square one.

The Western Node in particular reported increased Invasive Native Scrub (INS) with an inability to manage through grazing. Species such as mimosa bush (*Vachellia farnesiana*), Yellow Pea Bush and Duckweed were noted to have been observed in wide and rapid spread post-drought, carried along by both wind and through waterways (duckweed).

The emotional and visceral impacts of the drought-stricken landscape were experienced broadly

The indigenous community spoke of distress from seeing the countryside in poor health, such as the river drying up, the algae blooms and fish kills, the poor and dying wildlife, dust storms, and windswept landscape.

“...no water in the Barka [Darling River], there is no life...”

For the Coastal communities, areas renowned for their visual appeal, the decimated landscape was unexpected and often shocking, while residents in other rural townships spoke of the dismay at seeing lawns die or be eaten by kangaroos, the reduction in birdsong and small reptile activity as those populations dwindled, and the evident deterioration of the landscape

through regular commuting.

While forecasts and prediction tools are seen as key to future drought preparation, their credibility is paramount

A repeated query across nodes was ‘where to get trusted information’ and ‘who to trust’ with regards to environmental and landscape management, farm and financial management. Comments around the rise of specialty knowledge professionals without credentials were expressed as causing concern about who to trust. This suggests that, potentially, there is an important role to be played by farming systems groups, peak industry bodies, and extension and adoption organisations in, among other things, vetting the credentials of information and advisors before being extended to the group or industry.

“... as a member of a grazing group, the reassurance and support a ‘third-party’ can provide in decision making was a positive [drought] experience.”

Other key observations of environmental and landscape impacts

- More water points helped preserve ground cover in some grazing operations rather than concentrating grazing pressures on limited water points,
- Conversely, permanent water points caused some landholders to hold on to stock longer and decimate groundcover,
- Bush areas saw native trees and bush’s decimated, limbs / branches dropped leading to increased fire risk,
- Pine plantations struggled because of the lack of water,
- In the west around half of the Coolabah trees died,
- Direct drilling of crops has improved ability to preserve the cropping country,
- There were representations that the river systems were not meant to be full all the time and require peaks and troughs for riparian health,
- Irrigation farmers needed to spend more time controlling weeds in their crop areas during the drought,
- High rainfall areas (Tumut) didn’t ‘feel’ like it was in drought because it was still very green,
- There was an (possibly inaccurate) impression from town residents that European trees survived drought because natives have shallower roots rather than the deep taproot of Euro trees,
- Drought impacts came hand-in-hand with bushfires,
- It was commented that significant erosion had occurred post-drought because of reduced groundcover, however Western node producers were less conscious of erosion effects, presumably because the area is largely flat and the likely wind erosion not as visibly obvious.

Due to the knowledge and expertise provided by the NSW Soil Knowledge Network (SKN) group, their contributions relating to the environment, landscapes and soils have been included below.

Management of drought soils is complex

Setting a timetable is key and the producer needs to juggle the weather forecast, the biophysical environment, ground cover, dust in the air, and the business elements when making decisions.

The pattern of a drought effects its impact

Producers can normally cope with one failure in the southern rangelands or southern cropping areas. However, the 2017-19 drought saw three consecutive poor years. This differed from the pattern of the Millennial Drought, which instead a fluctuating pattern of poor and moderate seasons.

Post drought and soil recovery observations

After a drought, the biomass in the soil is generally still available (if it has not blown away). Once the water and temperature conditions are corrected the soil microbes resume their activity in releasing nutrients for plant growth, there is often a spike in pasture growth commonly observed after drought.

Dust storms can reduce the amount of nutrients in the soil by removing soil that contains high concentrations of nutrients, but can also deliver these nutrients to landscapes downwind, which positively impacts those soils.

Livestock are more likely to compact the soil when there is reduced groundcover:

“...the first thing that happens after we get rain after the drought is all...dams fill up with sheep poo. All that stuff on the surface washes straight down into the dam. It looks like it's covered with a solid mat...”

Financial implication of dust storms

A dust storm study undertaken by the NSW Soil Knowledge Network estimated that a single dust storm in 2009 cost \$350 million in one day in lost nutrients and off-site impacts (damage to urban areas).

Western Rangelands face different challenges

Western rangelands farmers can recover from drought more quickly if they know and manage their soil limitations, and their ground cover. If they lose the perennially of the plant population and change from a shrub system to a grassland system, they risk losing their drought resilience almost completely.

Cropping and grazing requirements differ for soil management

In cropping areas, it is possible to [quickly] replant a new crop, providing there hasn't been too much soil lost from runoff or compaction from stock. In contrast, grazing areas need to take into account the particular vulnerabilities of various soil and their groundcover types, and plan grazing management, in particular stock containment, accordingly. Further, post-drought soil recovery in grazing areas is often much slower than in cropping areas.

Soils and the media

A dust storm is something that grabs people's imagination, and dust storm imagery is popular the media. Reporting on a dust storm is much more appealing to the media than reporting on antecedent rainfall and other early drought indicators and preventative strategies. This distracting impact of the media on the public interest has implications for directing attention and funds towards sound, but ostensibly boring, drought management research and investment:

“...However, in reality prevention is better than cure, and prevention is not sexy!...”

Kangaroos and soils

In contrast to other consultations, while the SKN group acknowledged that kangaroos and goats are a big groundcover issue, they suggested that sometimes they are an easy 'out' for producers who fail to manage grazing pressure by saying they can't manage the impacts from kangaroos and feral animals.

LOCAL COMMUNITY, INDUSTRY, AND ECONOMY DROUGHT IMPACTS

The impact of the drought on the local community, industry, and economy was a widely discussed issue in the consultations. The headings below unpack the various themes provided by the consultees.

Community impacts of drought are much more keenly felt by women than men

Interestingly, women's responses in the online survey on ability and willingness to be involved in community events were much more negative than men. In contrast to women, men recorded only a small negative impact of the drought on ability to be involved in community, and even suggested that drought had a small positive impact on their willingness to be involved in community. These observations suggest that the community impacts of drought are much more keenly felt by women than men.

There were indications of the moral and social fabric of community fraying under the pressure of drought

Alcohol and violence were mentioned on three occasions throughout the consultations. There was the suggestion that there was an increase incidence of both alcohol abuse and domestic violence resulting from the pressures of the drought:

“Observations of a rise during drought in domestic violence, suicide and significant impacts on children”

“Alcohol consumption goes through the roof, and lots of community functions are held with alcohol high on the agenda. (The esky of beer is the first thing to go in the car before mum and kids).”

There was a mixed response to community engagement during the drought

Some respondents cited that they were less likely to socialise due to the negative, circular conversations that would inevitably be on offer, but others saw local events, particularly those events in response to drought, as a reprieve from the farm business issues and were generally well supported.

Considering the drought timeline, some farmers identified that they withdrew from community initially, presumably focussing on and responding to the emerging drought situation, only to become more socially active as the drought progressed and they recognised need to get off-farm and away from the issues they were facing.

Interestingly, there was one suggestion that church attendance grew during drought.

Local sporting clubs and events were impacted negatively by the drought

The impact of drought on community sport was raised on four separate occasions.

“Local sporting clubs suffered during drought due to financial impacts, time limitations or general social withdrawal.”

However, sport provided a distraction from the pressures of drought and helped families get out and socialise with their children in the community. The importance of the social opportunities that sport brought to drought affected communities was highlighted, but it did not alleviate the challenges involved in maintaining sport. The importance of sport was also raised in reference to keeping opportunities available for children to stay active and engaged in an important developmental activity.

Sport was not restricted to the traditional sense of the word; popular countryside events such as camp drafts and rodeos had to be cancelled for want of suitably conditioned livestock.

Sporting grounds also struggled for maintenance as water became scarce and councils and clubs came under financial pressure.

The follow-on impact of Covid-19 had considerable negative impacts on the already beleaguered regional sporting scene.

Community resilience was reduced by the drought, exacerbating the effect of more recent challenges

Some communities have been hugely impacted by the combined effects of drought, fires, Covid 19 and now floods. These are obviously separate community pressures, but the accumulative effect of them has put communities under more pressure than had they happened in isolated events such as happened with the Millennial Drought and its recovery.

Local economy

Farm supply and contracting businesses

The nature of the droughts impact on farm supply business varied between regions.

The only online survey respondent that indicated being in farm supplies (Central region) suggested a strong positive financial and sales impact during the drought, and no impact after the drought.

The only open call submission that indicated being in farm supplies (Coastal region) suggested:

“It has been our experience that the overall demand from our client base, while obviously of a different nature, remains strong despite climatic factors. Surprisingly, our level of debtors (in dollars) as a proportion of turnover did not vary significantly.”

Generally, any products that supported animal nutrition and health during drought, or other on-farm drought mitigation activities, saw an increase in sales.

Machinery suppliers and repairers suggested a slowdown in new sales. However, those that offered repairs, including farm engineering businesses, cited a large increase in work as farmers sort to retain and repair old equipment as opposed to upgrading into new equipment.

Further, the general reduction in discretionary farm spending had a big impact on rural contracting businesses:

“[The drought impacted the] rural contracting industry, from a decrease in demand for services, to prolonged late payment terms, to an inability to pay for works already completed.”

Tourism

Minor decreases to increases in tourist activity were reported. The lack of photogenetic visuals – brown dusty versus lush green landscape - was cited to stifle tourists and slow tourist activity in the Southern Highlands.

However, city-level advertising campaigns encouraged city-dwellers to visit and support other drought affected areas of NSW. For example, the Darling River Run proving to be valuable drawcards for city tourists, and the Temora Aviation Museum had their largest ever event in 2018.

Other areas of the economy

There were significant observed decreases in discretionary spending in communities, the breadth and depth of which is not fully captured in this summary.

One café owner reported a 25-30% reduction in sales, and a \$1.2 million loss in revenue over the drought, bushfire, and pandemic. A dress shop owner reported a slow-down in sales. A local radio manager suggested that advertising was ‘pulled’ early as small businesses looked to jettison discretionary expenses. In Deniliquin it was cited that 14 to 15 retail shops have closed and only businesses experiencing growth are government social support agencies.

The effects of the broader economic slowdown are still being seen with some retailers having closed shop and left town with no new businesses opening in their place. This highlights the ongoing effect of drought impacts on the local economy.

It was contended that the loss of products and services from regional towns made them less inviting places to live, and hence had a knock-on impact after the drought as small communities struggled to attract people back.

Some more experienced consultation participants commented on the benefits of government funded local development projects that would employ local farmers and community members, providing an opportunity for off-farm income at the same time as improving the local community during drought.

“We need to consider something like the ‘RED’ scheme – the Whitlam Regional Economic Development Program.”

Loss of industry

Loss of industry was synonymous with the economic slow-down in regional communities.

Industry closures forced people to move out of the community for work, and this was said to cause distress and social upheaval. Loss of industry also saw an exodus of skilled people from the regions, and reduced spending in the community, and these impacts are ongoing.

For example, Deniliquin has been decimated by the downturn of organisations such as SunRice and Murray Irrigation, both employing only a fraction of its staff after the drought. The largest employer in Cooma – the Monaro Abattoir - closed at end of drought because they couldn't buy livestock, and remain closed as they are now unable to find staff.

The impact of loss of industry is exacerbated in the context of drought resilience

The impact of the loss of industry from local communities has, and continues to have, an impact on the local economy and community. However, loss of industry has a much graver implication when placed in the context of drought resilience – industry is seen as an important economic buffer against the impacts of drought.

A common opinion running through the consultations was that regional communities needed more industry and service jobs to have a robust economy that could withstand periods of drought.

“There needs to be more off-farm income earning opportunities – service jobs - in the local towns.”

It was observed that farming businesses that had one family member or partner working off-farm were more resilient to the economic impacts of drought.

“I [a women] took an off-farm job with NSW Health Western District pilot project, the Drought support team, as a farm peer worker to support people experiencing drought.”

However, loss of industry means that future drought resilience will be compromised as there will be less regional economic activity to buffer against the impacts of drought on farm businesses running through the community.

Communities did not appreciate some media representation

There was depression and angst caused by dramatic and inaccurate media portrayal of the drought in communities:

“a drought-affected river from elsewhere in NSW was depicted as the Edward River in front page news, much to the dismay of [Deniliquin] locals as the Edward River was, at that time, still healthy and flowing.”

However, there was obvious contradictions between the sentiments on media portrayal of small, drought affected communities. Some consultees indicated they did not want to be depicted as marginalised, impoverished communities in the media, and preferred the media did not focus on them in the drought. Others suggested that they were disappointed when their city counterparts were ignorant of their plight in the drought affected bush. Indeed, the media are caught between a rock and a hard place.

The portrayal of drought in the media also inspired a sense of helplessness in the community outside of primary production.

These findings highlight the important yet sensitive conundrum of drought portrayal in the media.



The following commentary collates key findings that highlight impacts and experiences of drought that were either distinct to, or emphasised in, certain nodes within the Hub’s geographical footprint.

Author’s note: Due to time and budget constraints, and the nature of social research, not every theme/subject matter was addressed by every stakeholder in every node. Consequently, just because a theme/subject matter appeared distinct to, or was emphasised in, one node, this does not necessarily mean that it wasn’t present among the other nodes. The following commentary seeks only to represent distinctions in drought experiences and impacts between nodes as it was represented to the project team during the consultation process.

WESTERN RANGELANDS

Consultation summary

Data collection mode	Participation	Stakeholders Represented
Consultations	56	Farmers Indigenous Community members Rural support services Kangaroo harvester Health Education
Submissions	4	
Surveys	9	
LLS Staff	2	
Total	71	

It was a very dry drought

It was reported during the Western Rangelands consultations that 2019 was the driest year on record since records began in 1880 with just 75mm received in some areas. While periods of low rainfall had previously been experienced, never had less than 1/3 of annual rainfall been received until 2019, resulting in unprecedented low stocking rates.

Comments were provided that in some areas of the Western Division, drought-breaking rainfall was not received until April 2022, a lag of some 18 months behind other areas in the node.

Distance seemed to exacerbate the challenges posed by drought

The logistical challenges and costs imposed by distance in the Western Rangelands is not isolated to drought time, but seemed to be exacerbated by drought:

“...the distances involved are too great to continue attendance [at social events] due to both the time required as well as the cost in travelling.”

“The distance the fodder had to travel was averaging 700km a trip [one-way] for the B-double or road train trucks. 3 [trucks] a week.”

Roads deteriorated significantly in the west during drought

Naturally following the issues of distance in the west, the large distances of dirt roads deteriorated to a greater degree during the drought, mainly for want of water for maintenance and marked increase in use.

“...roads deteriorating due to lack of funding and increase in trucks delivering fodder, water (corrugations, bull dust).”

The impact of deteriorating dirt roads in the west was a marked increase in travel time to get product on and off farms, and an increase in expenses. One western consultee revealed that the last 113 km of the 750 km journey to bring grain to his farm took the truck 3 hrs to complete, and they charged an extra \$1 /km for the whole 750 km journey, representing a 17% increase in cost.

Further, some truck drivers refused to service certain areas due to the condition of the roads – they couldn’t charge enough to cover the damage to their trucks and the time it took to complete the journey.

“One of western councils’ high priorities are continuous maintenance of long distances of rural roads which are predominantly unsealed. This management is totally dependent on access to water to use during restoration. Severe drought means no water means ineffective maintenance.”

The animal welfare issue of kangaroos appeared more pronounced in the west

The impact of kangaroos on farm businesses and other respects was noted in all regions, but the animal welfare issue appeared more pronounced in the west:

“In particular, the sight of huge numbers of kangaroos dying and dead, ... were noted as causing all family members’ significant distress.”

In contrast, other node consultations didn’t specifically focus on this animal welfare angle; they tended to focus more on the impact of the kangaroos on grazing resources, as risks on roads, and their encroachment into towns and gardens in search of food. This suggests a different, or additional, experience and impact of kangaroos during drought in the Western Rangelands.

There were perceived drought map inaccuracies in the west

There were perceived inaccuracies in the NSW DPI Drought Indicator maps by western farmers. As these maps are used to reflect intensity and impact of drought, they were provided as examples of the perceived downplaying of the severity and longevity of the drought in the western division, leading to observations of increased mental stress and a sense of isolation for those producers.

Farmers in the west suffered from misinformed perspectives of the east

Constant reference to previous dry spells and that it is the nature of the western division was cited as having detrimental effects on producers struggling with unprecedented drought conditions in the Western Rangelands.

The west saw some landscape scale effects occurring after the drought that can't be undone (easily)

Invasive Native Scrub (INS) is a recognised land management issue in the west, and drought, grazing, and their interaction, can accelerate the establishment of INS under some conditions. Also, where more management and remedial options for weeds are available in the east, both practically and economically, there are limited options to manage INS in the west, especially in a timely manner.

There were representations that INS was bouncing back fast in the west after the drought, and that there were little opportunities to manage it through grazing, presumably due to the lack of stock and the nature of the INS, being the unpalatable 'turpentine' *Eremophila sturtii* (Myoporaceae).

There were also comments around 'Yellow pea bush' and Mimosa which have been observed to have spread rapidly after the drought.

The lack of education options in the west was a key experience

Generally, farmers from the western regions rely more heavily on boarding schools, which often come at a large cost, for their children because there are few, if any, local public high school options in their region. The financial strain on western farms caused by drought meant that parents were faced with increasingly difficult decisions about how they would continue to provide their children a good education. Some commentary even suggested that parents were forced to decide which child was to 'go away to school', and who was to stay.

CENTRAL

Consultation summary

Data collection mode	Participation	Stakeholders Represented
Consultations	48	Farmers & farm worker Indigenous Community members & business owners Rural support services Rural Financial Counselling Service Landcare & Farming Systems Groups DPI & RD&E CWA & Health Others
Submissions	9	
Surveys	36	
LLS Staff	0	
Total	93	

Dryland & irrigated cropping businesses were represented in the Central node

The Central node saw more cropping businesses represented than in the other regions.

For dryland cropping, this meant that consultations yielded observations around the positive impacts of no-till and direct drill farming on drought management, especially in regard to soil moisture retention and top-soil loss. Consultations also identified the ability of some cropping farmers to utilise failed crops to either bale and sell as stock feed at elevated prices, to agist stock in onto them, or as an opportunity to purchase and finish stock.

For irrigated cropping, the consultation process provided platform for a very passionate, highly contentious discussion around irrigation water management during drought, and the impact of water policy on the key irrigation hubs of the Murrumbidgee and Coleambally Irrigations Areas, and Deniliquin. In addition to the immediate impact on farm businesses, the impact of reduced irrigation water allocations on the local community and local industry was highlighted.

On the positive side, irrigated farmers suggested that DPI science of 'drill sowing' rice saw a surge in popularity during the drought, with most farmers implementing it to increase water efficiency. Also, the drought cemented the place of other water saving innovations such as advance grapevine irrigations technology, bankless channels and field layouts that help expediate the water on & off crops.

Farmers, from the Hillston area at least, suggested the drought's duration was an important factor in their ability to manage it

While the extent and intensity of the drought was unprecedented in some regions, the farmers from the Hillston region suggested that the 2017-19 drought was not as bad for them as was the Millennial Drought, largely due to the shorter tenure. As a result, farmers from the Central node felt they were better able to manage the more recent drought as a result. These comments accord with the comments of the Soil Knowledge Network around the pattern of drought impacting how farmers manage it.

MONARO & CAPITAL

Consultation summary

Data collection mode	Participation	Stakeholders Represented
Consultations	21	Farmers Community members Business owners Local government RD&E
Submissions	0	
Surveys	1	
LLS Staff	0	
Total	22	

The drought was just one of the many disasters affecting Monaro & Capital node

Not dissimilar to the Coastal node, but more so than the western node, the most recent drought signalled the start of string of catastrophic landscape and community events in the Monaro & Capital node, including drought, bushfires, floods, and the pandemic.

Although these events were not all ‘drought’, feedback suggests that drought ‘recovery’ never had the chance to take place, and that the drought had already eroded some of the inherent landscape and community resilience before the following events took place, effectively exacerbating their impacts.

“Volunteers are exhausted and struggling for numbers due to compounding effects of drought, fires, covid, now floods”

It didn’t always feel like drought, especially in the mountain areas

High rainfall areas didn’t always ‘feel’ like it was in drought because it was still very green. Some of the only indications of drought was that there was dust settling on windows, which was noted to be topsoil blowing off the farming country to the west.

There was anger in the management of the national parks resulting in fires after the drought

There was considerable remonstrations at the handling of fuel loads in the national parks, which participants in the consultations suggested led to the inevitable fires during the drought period.

“National Parks ‘fell asleep at the wheel!’”

Land experiences unique to the Monaro

The Monaro, not dissimilar to the New England Tablelands, has a significant invasive African Lovegrass issue. Those who had undertaken a significant and long-term approach to the management Lovegrass who, during the drought, didn’t have either the time or resources to continue this management approach and subsequently found their landholding back to square one.

“Increased spread of noxious seeds and weeds, particularly African Lovegrass, seed spread during and post drought”

The large tracts of Bush areas saw native trees and bush’s decimated, and limbs / branches dropped leading to increased fire risk. There was a spurious suggestion that European trees were observed to survive drought better than natives because ‘natives have shallower roots rather than the deep taproot of Euro trees’. This observation suggests knowledge inaccuracies that may exist within the drought experience across a community.

ORANGE

Consultation summary

Data collection mode	Participation	Stakeholders Represented
Consultations	14	Farmers Community members Rural support services Business owners Rural Financial Counselling Service RD&E NSW Government Farm systems groups
Submissions	5	
Surveys	12	
LLS Staff	0	
Total	31	

The drought was longer in the Orange node than commonly perceived

In the Orange node and surrounding areas, the drought was cited during consultation in Dubbo to last much longer than other areas, being from 2014 to 2019 with one short reprieve in 2016.

“.. even the best prepared farmers began to run out of options after three years of drought.”

However, there were qualifying comments from the open call submissions, most likely reflecting the variation in drought intensity and duration within the node:

“The drought actually lasted for 3 years from latter half of 2017 to first half of 2020.”

Either way, this calls into the question the concept of drought preparedness; does a farmer prepare for 3-yrs of drought, or even 5-yrs? Can they afford to divert that amount of resources into their drought preparation and still remain profitable? These questions are important considerations for organisations looking to promote and enable drought preparedness moving forward.

The Orange node was the only node that indicated an overall positive impact of the drought after it had finished.

Compared to the other nodes, in the online survey Orange was the only node that indicated

an overall positive impact of the drought after it had ended. This was due to markedly more positive responses to impact on environment and landscape, production and sales, and personal well-being after the drought than the other nodes. These online survey responses are suggestive of a better recovery in the Orange node relative to the other nodes.

Land values in the Orange node (and the Coastal node) are increasing to the extent where agriculture is almost unviable

Consultations in the Moss Vale region demonstrated that farmland prices in the Southern Highlands are inflated to the extent they are out of reach of primary producers, decreasing the opportunity for producers to expand, increase efficiencies, and improve drought resilience. Conversations with stakeholders in the Orange node suggest a similar issue. This raised the question as to how farmers were to stay on the land in the regions and manage it effectively, despite the financial headwinds in doing so? Government incentives and a regional-level strategic policy approach to agri-tourism were raised as possible solutions.

COASTAL

Consultation summary

Data collection mode	Participation	Stakeholders Represented
Consultations	13	Farmers Ag industry group Ag service providers Community members Community services Business owners Local government / Business Chambers Banks Education LLS* via consultation
Submissions	3	
Surveys	6	
LLS Staff	0	
Total	22	

Like the Monaro, drought impacts were exacerbated in the coastal region by fire, flood, and the pandemic

Like the Monaro & Capital node, the most recent drought signalled the start of period of catastrophic landscape and community events in the Coastal node, including drought, bushfires, floods, and the Covid-19 pandemic.

There was a sense of fatigue with regards to the Baselining Drought project, with sentiments expressed that it is time “to walk the talk, not talk more talk”.

“...It [drought planning / management] should be industry co lead by a team of skills based operators with real practical experience, and established outcomes to actually help farmers and producers...”

Kangaroo issues were surprisingly well-represented despite being a relatively built-up area

The impact of kangaroos was unprecedented and unplanned for, exacerbating total grazing pressures even on those with well-managed pastures and landscapes. With the best planning possible, the scale of landholders meant that the sudden and significant influx of kangaroos very quickly wiped out their defences against drought, leaving a decimated and, due to its infrequent occurrence, emotionally shocking landscape.

“...For a region renowned for its visually appealing landscapes and associated tourism appeal, this resulted in tourism bodies reducing promotion and a subsequent decline in the economic benefits of tourism the region would generally receive...”

There is significant local interest, support and scope for the opportunities provided through diversified income streams on-farm

Establishment of producer cooperatives or ‘hubs’, agri-tourism trails, paddock-to-plate experiences, and regional events were all raised as possible opportunities for the Coastal region to capitalise on its proximity to Sydney and the diverse range of industries.

However, there needs to be high-level policy change to accommodate drought-resilience measures that diversify income

Current land tax assessments and drought assistance measures are currently impacting on primary producer businesses who diversify their income, again affecting the ability of these businesses to improve their own resilience to future drought events. Concerns about bio-security implications of diversity through agri-tourism were also expressed with regards to limiting the willingness and ability of producers to mitigate drought risk.

Preparation for and management of drought faces some unique challenges in the Coastal node

A range of factors including generational landholders who have inherited land with little understanding of how to manage the landscape, remote land owners with limited time or interest in land management, increased landscape pressure from large-scale residential developments and the changing role of Council / community in land care, were highlighted as issues impacting and limiting the ability of the area to recover from and increase resilience for future drought events.

With increasing pressure from the north, evidence of productive farmland (particularly large holdings relative to the region) being sold to developers at prices out of reach or feasibility for primary producers was shown to be decreasing the opportunity for producers to expand and increase efficiencies in scale of production, limiting their ability to improve resilience to drought and natural disasters.

“...the region is viewed by many as the ‘last stand’ against urban sprawl...”

Coupled with significant remote investment and resulting high land values, the competition this brings for land, particularly large landholdings, has often rendered primary production and conservation unviable.

Interest in changing land management practices appears strong

Considerations such as how to change current land management models to incorporate nature, using what happens in nature as the base/starting point, restoring landscapes such as drained land to their original state to build natural resilience, and taking on formal leasing and management of remotely owned landholdings were all presented as opportunities to improve the overall management of the landscapes of the region. The region appears keen to learn from past events, be they natural or economic, and increase their own resilience with Government dependency.

Suggestions of closer alignment between the economic imperatives of improved landscape management against future borrowings was provided as an example of opportunity for both landscape managers and lenders looking to enhance their Environmental, Social and Governance (ESG) credentials.

“...the adoption of regenerative agricultural practices, world-leading animal welfare standards, industry benchmarks and bio-security standing...all provided...positive opportunities to inform the community more widely as to the role best practice production plays...”

The region experienced some positive community effects

“...we are all in this together...”

Coastal node representatives spoke of closer working and relationships with neighbours during and because of drought, including pooling together for labour and resources to limit financial and time impacts. A sense of cohesion in the community was forged, perhaps in part due to the unprecedented scale of drought impacts for the region. The establishment of buyers' clubs was evidenced as a positive lasting benefit which have endured beyond drought.

The ability of rural retailers to remain flexible in their offering affords them greater drought resilience

As a South Coast rural retailer provided via submission, they were able to alter the mix of goods and services provided to whatever was appropriate in the circumstances to ensure desired continued high stocks turns. It was provided that the overall demand from the client base, while obviously of a different nature, remained strong despite climatic factors and (somewhat) surprisingly (to business owners), the level of debtors (in dollars) as a proportion of turnover did not vary significantly during or post-drought.

“...We were established enough (30 years) to both withstand both short term stocking issues and also the need for extending financial support where needed. Credibility that had been established over an extended period, in our case, with our suppliers and our bank also helps...”

Post-drought experiences & impacts

Most of the feedback from the project consultations was focused on experiences and impacts during the drought. For easy reference of the impacts and experiences after drought the following notes have been compiled. The feedback was not considered to be unique to specific regions.

- Farmers can't afford to employ people back into communities post-drought - many people have left because of the lack of work and have now been replaced by on-farm efficiencies such as larger / automated machinery leading to long-term population reduction,
- Farmers have been slow to restock, with some reasons provided being:
 - ~ limited access to capital,
 - ~ reduced national herd numbers,
 - ~ inflated livestock prices,
 - ~ uncertainty around direction of the livestock market, and
 - ~ the need to give pastures time to recover,
- The mental health and community sentiment is still suffering after the drought,
- Farm financial recovery lags physical recovery by 12-18 months,
- Kangaroo numbers have been observed to be 'through the roof' post-drought, as numbers have bred back up very quickly,
- Access to working capital after the drought has become a key issue as the banks undertook a reassessment of the ag industry, leading to an increase in risk rating and decreased ability to borrow additional working capital. This resulted in a rise of 2nd and 3rd -tier lenders,
- Griffith is actually growing post drought and is one of the few regional centres to be doing so. This is attributed to irrigation, and that Griffith has become a centre for suppliers and service for agriculture,
- The burden of servicing drought borrowings is currently limiting some businesses from taking advantage of improved seasonal conditions and thereby limiting their ability to improve resilience for future drought,
- Establishment of buyers' clubs which have endured beyond drought,
- Reference to continued decision-making fatigue and paralysis were seen as long-term impacts of drought, particularly when combined with negative seasonal outlooks,
- It was observed on a number of occasions that while there is awareness that drought planning needs to be undertaken after drought, there remains a post-drought inertia which prevents long-term decision making and behaviour change.



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